6HL8

Medium-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

For Video and Bandpass Amplifier Applications in TV Receivers

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6[a]	volts
Current at heater volts = 6.3	0.600[b]	amp
Warm-up time (Average)	11	sec
Peak heater-cathode voltage (Each unit):		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200[c] max.	volts

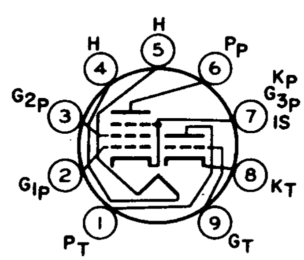
Direct Interelectrode Capacitances:

	Without External Shield	*With External Shield*[d]	
Triode Unit:			
G_T to P_T	2.8	2.8	pf
Input: G_T to (K_T, K_P+$G3_P$+IS,H)	2.8	3.0	pf
Output: P_T to (K_T, K_P+$G3_P$+IS,H)	1.6	2.4	pf
Pentode Unit:			
$G1_P$ to P_P	0.030 max.	0.026 max.	pf
Input: $G1_P$ to (K_P+$G3_P$+IS,$G2_P$,H)	7.5	7.5	pf
Output: P_P to (K_P+$G3_P$+IS,$G2_P$,H)	2.4	3.0	pf

Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9AE

Pin 1 – Triode Plate
Pin 2 – Pentode Grid No.1
Pin 3 – Pentode Grid No.2
Pin 4 – Heater
Pin 5 – Heater
Pin 6 – Pentode Plate
Pin 7 – Pentode Cathode, Grid No.3, Internal Shield
Pin 8 – Triode Cathode
Pin 9 – Triode Grid



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Characteristics:

	Triode Unit	Pentode Unit	
Plate Voltage	125	125	volts
Grid-No.2 Voltage	–	125	volts
Grid-No.1 Voltage	–1	–1	volt
Amplification Factor	40	–	
Plate Resistance (Approx.)	5000	150000	ohms
Transconductance	7000	10000	μmhos
Plate Current	12.5	12	ma
Grid-No.2 Current	–	4.5	ma
Grid-No.1 Voltage (Approx.) for plate μa = 20	–	–7	volts

AMPLIFIER — Class A_1

Maximum Ratings, *Design-Maximum Values:*

	Triode Unit	Pentode Unit	
Plate Voltage	330 max.	330 max.	volts
Grid-No.2 (Screen-Grid) Supply Voltage	–	330 max.	volts
Grid-No.2 Voltage	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section		
Grid-No.1 (Control-Grid) Voltage:			
Positive-bias value	0 max.	0 max.	volts
Grid-No.2 Input:			
For grid-No.2 voltages up to 165 volts	–	0.55 max.	watt
For grid-No.2 voltages between 165 and 330 volts	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section		
Plate Dissipation	2.5 max.	2.5 max.	watts

Maximum Circuit Values:

	Triode Unit	Pentode Unit	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	1 max.	0.25 max.	megohm
For self-bias operation	1 max.	1 max.	megohm

[a] For parallel heater operation.

[b] For series heater operation current must be limited to 0.600 ± 0.040 amperes.

[c] The dc component must not exceed 100 volts.

[d] With external shield, JEDEC No.315, connected to cathode of unit under test.